

Name: _____

Test Date: _____

ECOSYSTEMS STUDY GUIDE

1. Describe the **biosphere** and the **Gaia Hypothesis**:

2. Define **ecology** –

Identify FOUR physical conditions that influence habitat.

3. Identify the **levels of complexity** from least to most complex: _____,

_____, _____, _____,

_____.

4. Define **population**:

Define **community**:

5. Identify THREE **abiotic** factors.

6. Identify THREE **biotic** relationships.

7. Define **biome**:

Identify the transitional zone between two ecosystems: _____

Identify the TWO factors that determine biomes: _____ & _____

...and the possible third factor: _____

8. Describe the effect of **convection cells** on determining biomes and identify the convection cells:

9. Identify the location and ONE defining characteristics of the following **biomes**:

- a. **Desert**
- b. **Savannas**
- c. **Tropical Rainforests**
- d. **Temperate Forests**
- e. **Grasslands**
- f. **Tundra**
- g. **Taiga**
- h. **Chaparral**
- i. **Icy regions**

10. Identify and give a characteristic of the FOUR divisions of the **ocean**:

- a.
- b.
- c.
- d.

11. Identify a characteristic of the following types of **aquatic organisms**:

- e. **Phytoplankton**
- f. **Zooplankton**
- g. **Nekton**
- h. **Benthos**

12. Identify and describe TWO negative environmental impact of the loss of **coral reefs**:

13. Identify an environmental impact of both **sea grass and kelp**.

14. Describe the characteristics of an **estuary/wetland**:

15. Identify TWO changes that occur in **estuaries/wetlands**:

16. Identify and describe THREE economic and environmental services provided by **estuaries/wetlands**:

17. Identify THREE ways that estuaries and wetlands have been negatively impacted:

18. Describe a **watershed** and the ecological importance on **floodplains** and **groundwater**:

Define: **Infiltration** –

Runoff –

19. Identify THREE **lotic water system** characteristics:

20. Identify THREE **lentic water system** characteristics:

21. Identify the TWO properties of the different zones in a **lentic ecosystem**:

a. **Littoral**

b. **Limnetic**

c. **Euphotic**

d. **Profundal**

22. Distinguish between **gross** and **net primary productivity**:

Identify the equation for gross primary productivity: _____

23. Describe the difference between a **niche** and a **habitat**.

24. Describe the range of tolerance for an organism.

25. Identify the characteristic of the **competitive exclusion principle**:

26. Identify the **trophic level** of each organism and the importance in the ecosystem:

Producer / autotroph –

Consumer / heterotroph –

Primary consumer / herbivore –

Secondary consumer –

Omnivore –

Detritivores / scavenger –

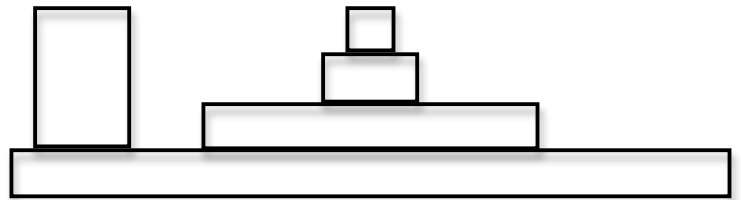
Decomposer –

27. Identify the **First** and **Second Laws of Thermodynamics**:

28. Describe and give an example of a **food chain**:

29. Describe and give an example of a **food web**:

30. Identify how energy flows through an ecosystem and label the generalized **ecological pyramid**:



31. Identify the defining characteristic of following pyramids:

Pyramid of Numbers –

Pyramid of Biomass –

Pyramid of Energy –